CASIO FP-12

FC 英 西

Introduction

We thank you very much for purchasing the CASIO FP-12 Printer. This printer prints out programs and results of operations when connected to the PB-100 and FX-700P.

No damage will result from improper connection or misoperation of the calculator or printer but if they are used improperly important programs or data may be lost, so please ensure that the instructions for use are thoroughly understood and followed.

Instructions for the operation of the calculator keys for each model have been omitted, so refer to the instructions for the individual calculators for key operation methods.

Contents

Use Precautions

● Since this unit is composed of precision electronic parts, please do not use or store in a place with high or low temperature, in a damp or dusty location or where it is subject to temperature variation or shock.

● Make sure the power switch of the calculator is OFF when connecting to the calculator.
If connected with power ON, the programs or memories may change.
When connecting be sure not to damage the connector.

● Since this unit uses a Ni-Cd battery as a power source, the battery should be recharged every 6 months even when not using the unit. This will help preserve strength and prevent leakage.

● Never take this unit apart.

● Do not use thinner, benzine or similar liquids for cleaning. Use a soft, dry cloth or a damp cloth with neutral liquid detergent.

● Prior to requesting maintenance, please check the power supply and method of operation.

● Please consult your retailer or nearby dealer if you have any questions concerning this product.

Each Section's Nomenclature

(Bottom panel)
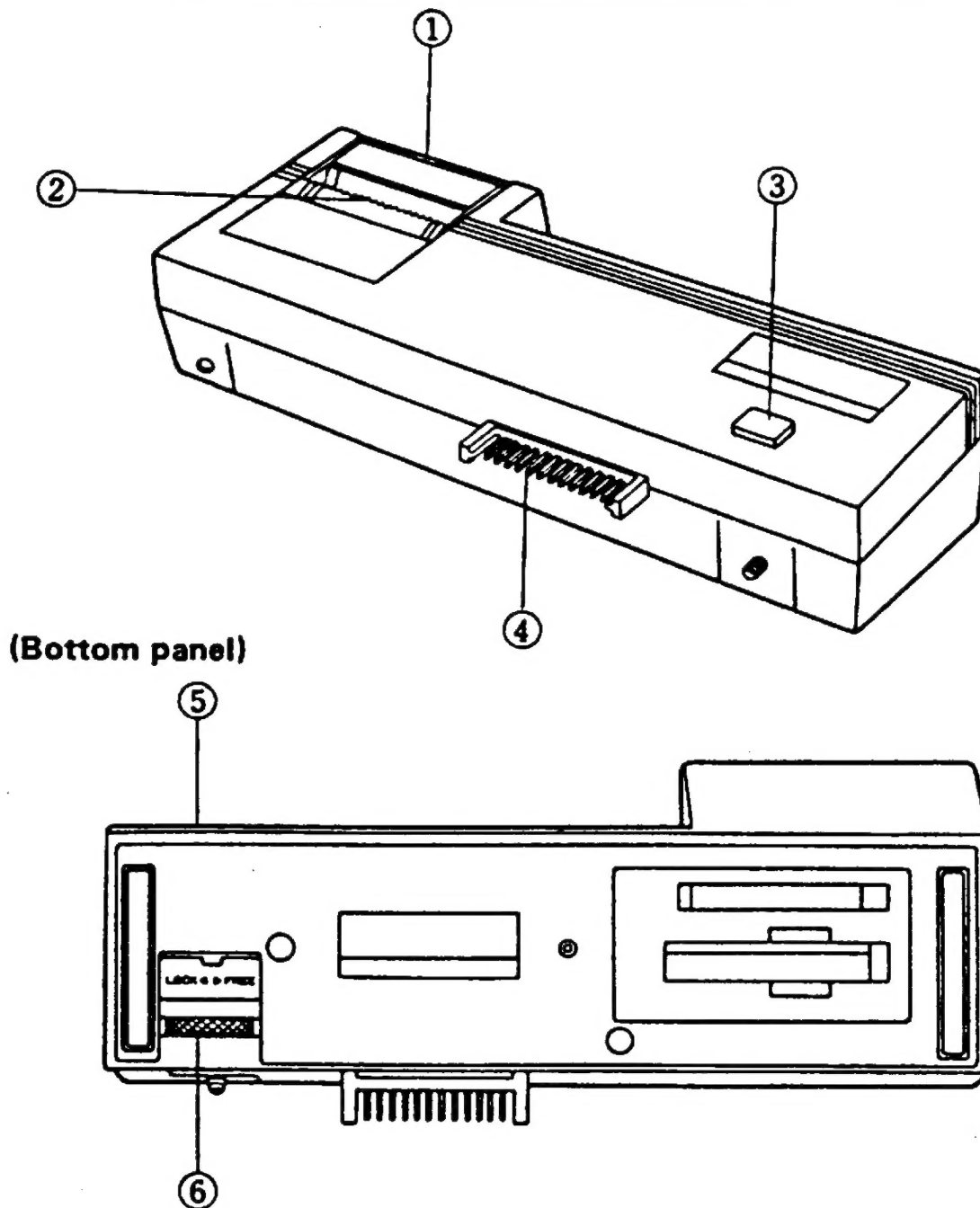
① Printer cover
② Paper cutter
③ Feed key (press to advance paper)
④ Connector
⑤ Charger connection jack
⑥ Dial for securing the FP-12 to the FA-3 tape recorder interface

Power Supply

This unit operates on a built-in rechargeable Ni-Cd battery.

With a fully charged Ni-Cd battery it prints approximately 3000 lines continuously.

When battery power decreases, printing speed becomes slow or print-out figures become dim. In this case, recharge the battery.
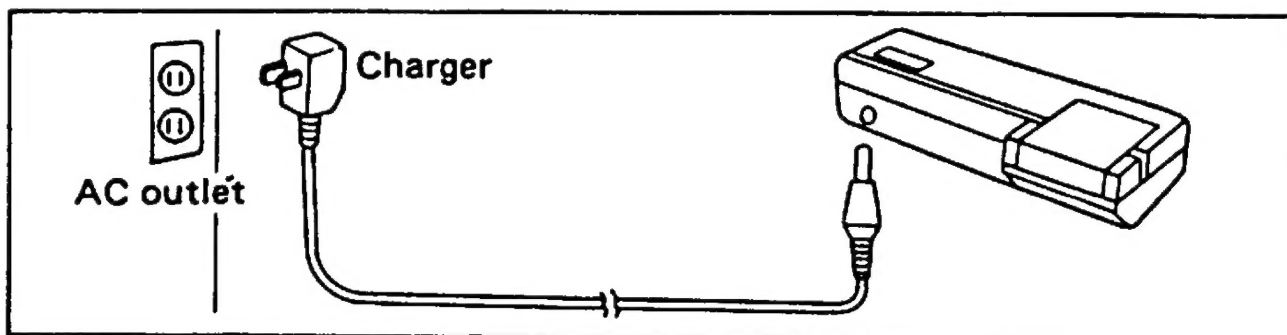
To charge the battery, disconnect the printer from the calculator and plug the applicable charger (100, 117, 220 or 240V) into an AC outlet and the cord into the jack of the unit. While the charger is connected, the battery is being charged except when the printer is activated. It takes approximately 15 hours to fully charge the battery.

You can operate the unit after charging the battery for 1 or 2 hours but shorter charging periods will reduce battery operating time. It is recommended that the battery be fully charged before you use the unit.

● Do not charge with the calculator or FA-3 in a set condition. When charging, be sure the power switch of the calculator is OFF and disconnect it from the FP-12.

● The use of a charger other than the CASIO charger supplied with the unit may result in damage to your unit.

● It is normal for the charger to be warm to the touch when it is plugged into an AC outlet. Unplug the charger from the AC outlet after the battery is fully charged.

● If the battery will not hold a charge and seems to discharge very quickly in use, it may be defective.

See the original store or nearby dealer to order a replacement.

Note: Connection of the FP-12 to the calculator drains the battery, therefore disconnect the FP-12 when not used for printing.

How to Load the Roll-paper

1) Connect the printer to the calculator (see page 7).
2) Turn ON the power of the calculator.
3) Open the printer cover as illustrated (Fig. 1).
4) Hold the roll-paper with the leading end passing underneath.
5) Insert the leading end of the roll-paper into the feed slot (Fig. 2) and keep pressing the [FEED] key until the leading end comes out (Fig. 3).
6) Load the roll-paper in the compartment and replace the printer cover.

Fig. 1

Fig. 3

Paper cutter

Fig. 2

Feed slot
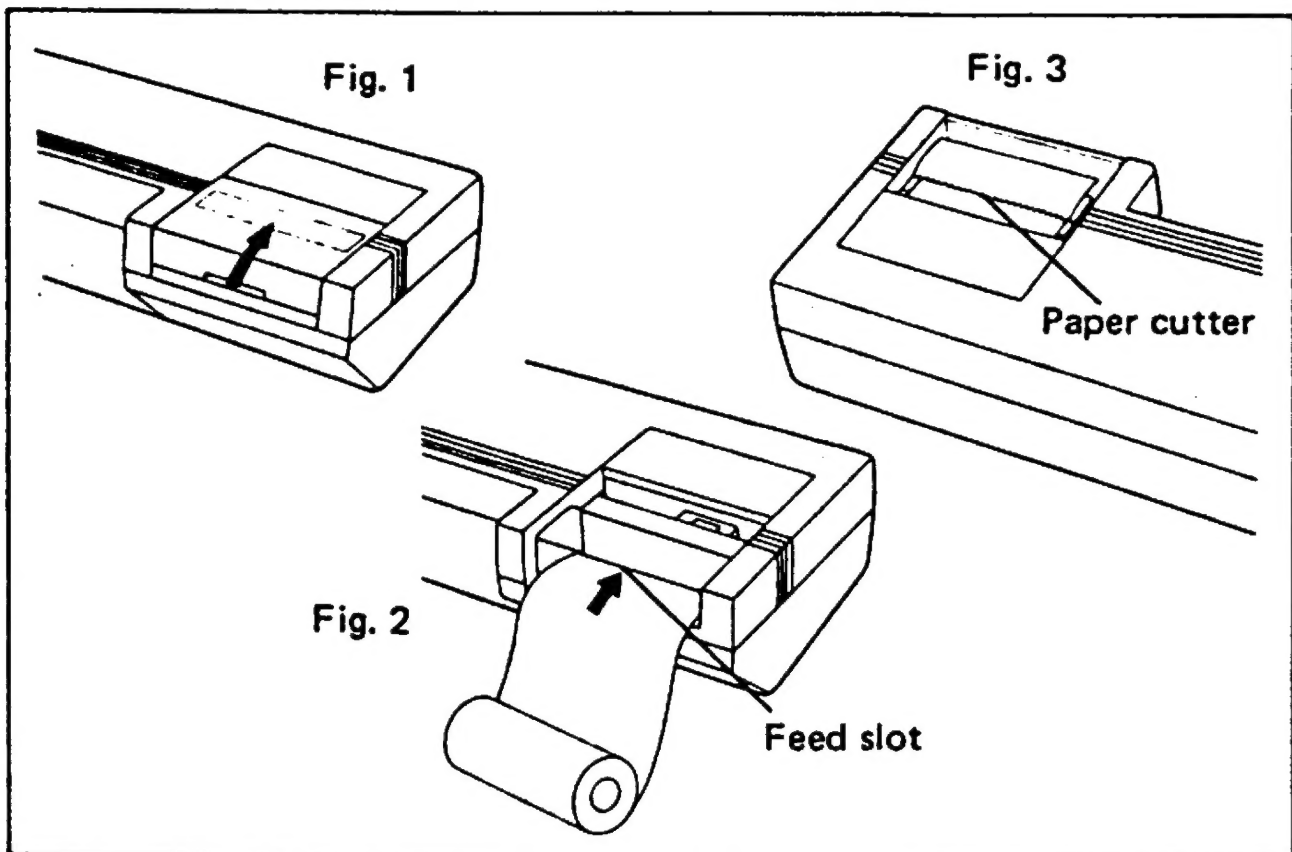
Note: Be sure to use the specified electro-thermal recording paper (size: 38mmW x 16mmφ) since the unit employs a special "electro-thermal printing system".

FP-12 Uses

1) Manual printing
2) Printing of a single program list
3) Simultaneous printing of all programs
4) Printing of operation results using a program

How to Connect to the Calculator

The printer can be connected directly to the connector of the calculator or through the FA-3 printer connector.
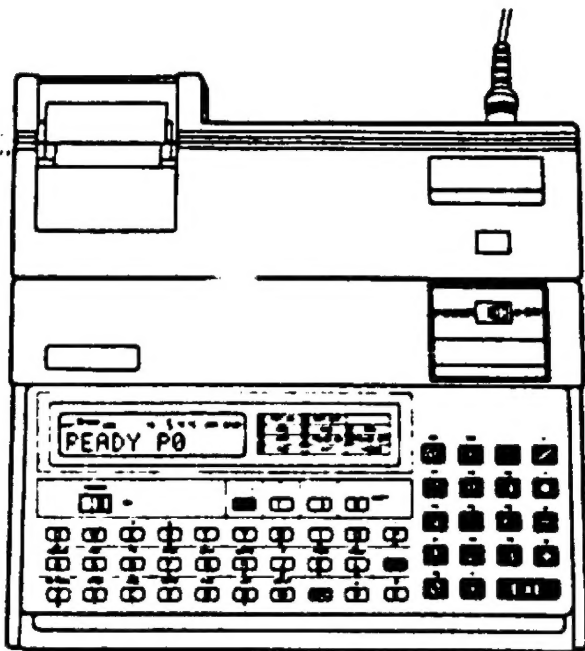
[When using the optional adaptor FA-3]
After connecting the FP-12 to the FA-3, secure them using the dial on the bottom panel of the FP-12.
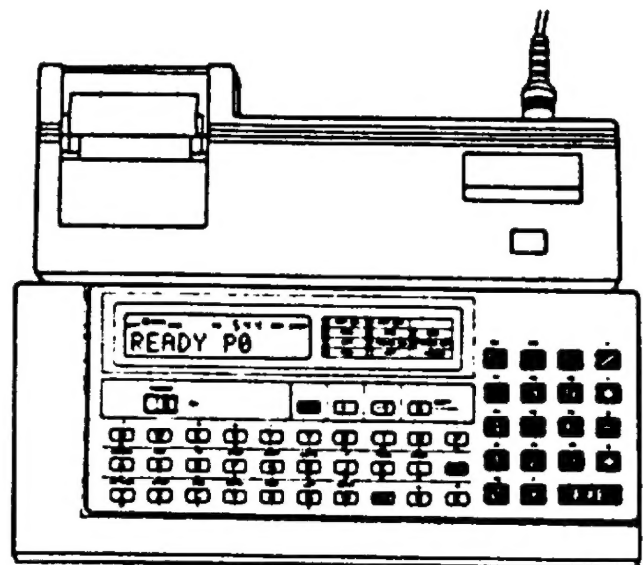
[When connecting directly]
Place the calculator on the supplied spacer and connect the FP-12 to the calculator. Then secure them using the dial on the bottom of the FP-12.

How to Use the Printer

■ Manual printing

When the calculator is operated in the "PRT" mode (press MODE 7), the operation contents or results are printed. For manual printing, when numerical keys or alphabetical keys (including one-key commands) are pressed, there is no printout. However, when the EXE key is pressed, the display contents or operation results are printed out. A few items will be printed without using the EXE key. These include the display (READY P0, etc.) when changing from the "RUN" mode or the "WRT" mode, and error indications.

Example: Printing of manual calculation operation contents and results

123+456*7=3315
sin32°=0.5299192642

Operation: **[Printout]**

MODE 7 .... "PRT" display

123 ➕ 456 ✴ 7 EXE

MODE 4 .... "DEG" designation

SIN 32 EXE

MODE 8

```
123+456*7
3315


SIN32
0.5299192642
```

Press MODE 8 to cancel the "PRT" mode. Furthermore, it is automatically cancelled when the power switch is turned to OFF or the power is cut off by the auto power-off function.

Example: Printing of program write operation

```
10  INPUT  A
20  B=A↑2
30  PRINT  B
```

Operation:

[MODE] [1] . . . . "WRT" mode designation

C LEAR A[EXE]

[MODE] [7]

  10 INPUT A[EXE]

  20 B=A↑2[EXE]

  30 PRINT B[EXE]

[MODE] [8]

[Printout]

```
10INPUTA
20B=A↑2
30PRINTB
```

■Printing of a single program list

Printing of a program list is performed in the "PRT" mode by executing a "LIST" command.

LIST [line number]

* Item in brackets [ ] can be omitted.

The program in the designated program area will be printed.
If a line number is written, printing will start from the designated line number. When the designated line number is not contained in the program, printing will start from the next closest line number.

Example: Printing of the program written in P0

Operation:

[MODE] [0]

[MODE] [7]

L I S T [EXE]

[MODE] [8]

[Printout]

```
LIST
  10 INPUT "A/B...A"
     ,A,"A/B...B",B
  20 PRINT INT (A/B)
     ;"...";A-B*INT
     (A/B)
  30 GOTO 10
```

* In the "RUN" mode, printout occurs continuously without stopping.
* In the "WRT" mode, printout does not occur continuously but is printed line by line each time the [EXE] key is pressed.
* When more than one line of printout is required for a line number, subsequent lines are indented in the "RUN" mode but not in the "WRT" mode.

[Printout]

```
LIST
10 INPUT "A/B...A",A
,"A/B...B",B
20 PRINT INT (A/B);"
...";A-B*INT (A/B)
30 GOTO 10
```

■Simultaneous printing of all programs

The "LIST" command printed the program in one program area only.

To print all programs in all program areas use a "LIST A" command.

Example: Printing of all programs

Operation:　[MODE] [7]

LIST A [EXE]

[MODE] [8]

[Printout]

```
LIST A

P0
   10 INPUT "A/B...A"
      ,A,"A/B...B",B
   20 PRINT INT (A/B)
      :"..."!A-B*INT
      (A/B)
   30 GOTO 10


P5
   10 INPUT "X",A,"Y"
      ,B,"X0",C,"Y0",
      D,"a",E
   20 F=A-C:G=B-D
   30 PRINT "X1=";F*C
      OS E+G*SIN E,"Y
      1=";G*COS E-F*S
      IN E
   40 GOTO 10
```

■Printing of operation results using a program

There are two methods for printing operation results.

One is performed using the "PRT" mode. The entire operation contents will be printed.

In the second method, when only the operation result is desired to be printed, write "MODE 7" immediately preceding the "PRINT" statement and write "MODE 8" immediately following the "PRINT" statement.

Example: Printing of the entire operation contents of the following remainder calculation program.

```
10  INPUT "A/B...A",A,
    "A/B...B",B
20  PRINT INT(A/B);"...";
    A-B*INT(A/B)
30  GOTO 10
```

$100 \div 7 = 14$, remainder of 2
$250 \div 11 = 22$, remainder of 8

Operation:

[MODE] [7]

RUN[EXE]

100[EXE]

7[EXE]

250[EXE]

11[EXE]

[MODE] [8]

[Printout]

```
RUN

A/B...A?
100
A/B...B?
7
 14... 2
A/B...A?
250
A/B...B?
11
 22... 8
A/B...A?
```

Note: There is no need to press the [EXE] key following the printout of the first calculation result. The system will automatically proceed to the next data input request.

Example: Printing of the result only for the previous example. The program is written as follows.

```
10 INPUT "A/B...A",A,
   "A/B...B",B
15 MODE 7
20 PRINT INT(A/B);"...";
   A-B*INT(A/B)
25 MODE 8
30 GOTO 10
```

This is achieved simply by adding line 15 and line 25.

Operation: **[Printout]**

      RUN[EXE]

      100[EXE]

      7[EXE]

      250[EXE]

      11[EXE]

```
14... 2
22... 8
```

When only the operation results are desired to be printed without printing of data input, write "MODE 7" and "MODE 8" in the program.

Note: If the [AC] key is pressed when the calculator is ready for input as a result of an INPUT statement, line change occurs. However, the printer will stop by printing "?" after line change is performed.

●Operation of a tape recorder and printer when using the FA-3

See the FA-3 Instruction Manual for instructions on how to use the FA-3 and a tape recorder.

Example: Assume that the following program and data for obtaining arithmetic mean and standard deviation (2 kinds) are stored on tape. The data is read from the tape and the results are printed.

```
10 GET "D"A(0),A(9)
20 T=0:S=0
30 FOR X=0 TO 9
40 T=T+A(X):S=S+A(X)↑2
50 NEXT X
60 PRINT "MEAN=";T/10
70 PRINT "SD=";SQR
   ((S-T↑2/10)/10)
80 PRINT "SDn-1=";SQR
   ((S-T↑2/10)/(10-1))
90 END
```

Data: 86, 89, 91, 76, 81, 79, 69, 84, 80, 84

Preparation: ● Connect the calculator and tape recorder.
● Start the tape recorder in the "PLAYBACK mode.

Operation: [Printout]

      MODE ⓪

      MODE 7

    RUN EXE

```
RUN

MEAN= 81.9
SD= 6.106553856
SDn-1= 6.436872947
```

In this manner, if connection is made through the FA-3, data can be read from the tape recorder and processed sequentially.

Specifications

Model: FP-12 (Printer)

Printing method: Electro-thermal   printing   system   (non -impact type)

Number of print positions: 20

Printing speed: 1.0 lines/second

Character composition: 5 x 7 dot matrix

Roll-paper: Electro-thermal recording paper (size: 38mmW x 16mm⌀)

Power supply: Built-in rechargeable Ni-Cd battery

Battery life: With a fully charged battery it prints approximately 3000 lines of "5555555555" continuously.

Battery life of the PB-100 or FX-700P with the FP-12 connected:
Without printing — approx. 110 hours
Continuous printing — approx. 40 hours

Power consumption: 4 W

Ambient temperature range: $0°C - 40°C$ ($32°F - 104°F$)

Dimensions: 38H x 173W x 66mmD
(1-1/2"H x 6-7/8"W x 2-5/8"D)

Weight: 198g (7 oz)

* This equipment complies with the requirements in CISPR Pub. 14.

GUIDELINES LAID DOWN BY FCC RULES FOR USE OF THE UNIT IN THE U.S.A. (not applicable to other areas).

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protrection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

..... reorient the receiving antenna

..... relocate the computer with respect to the receiver

..... move the computer away from the receiver

..... plug the computer into a different outlet so that computer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the US Government Printing Office, Washington, D.C., 20402, Stock No: 004-000-00345-4.

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